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ABSTRACT

Three variables--instructions, monetary incentives, and the sex of the listener--were studied to test the hypotheses that subjects would score higher on listener achievement tests if they (1) were told they would hear an interesting speech, (2) were given higher sums of money for their participation, and (3) were male. Over 120 undergraduate students at Ohio University listened to a test speech. Listener achievement was measured by a twenty-item recognition test. A mean of 11.77 and a standard deviation of 3.46, with scores ranging from 4 to 20, were obtained. A coefficient of internal consistency of 0.67 was obtained by the KR-20 formula. Results suggested that "interestingness" of orienting instructions and monetary incentives had no significant effect on the scores, but that males did score significantly higher than females. When subjects were told the speech would be boring or interesting, they evaluated the "interestingness" of the speech in accordance with the orienting instructions. There was no significant correlation between the perceived "interestingness" and the listener achievement test scores. (DS)

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THE EFFECTS OF INTERESTINGNESS, MONETARY INCENTIVE, AND SEX OF THE LISTENER ON LISTENING ACHIEVEMENT

The importance of the concept of attention in the process of communication cannot be overestimated. The communicative function most closely associated with attention is the process of listening. Weaver (1972:7) has suggested that "How well a person can listen and how well he does listen are not the same thing." The question of how well a person does listen is directly related to the role of attending in listening and is dependent on two major factors: his listening habits and his willingness to listen. The question of how well a person can listen is probably related to a number of organismic variables one of which may be the sex of the listener.

The purpose of this study was to investigate the effects of two variables related to willingness to listen and one variable related to ability to listen on the recognition and retention of aurally presented data. The three variables were interestingness in the form of orienting instructions, monetary incentives, and sex of the listener.

Interestingness

Orienting instructions have been employed as a means of manipulating subject willingness to perform tasks and the level of expectation in the performance of the tasks. Lucaccini, Freedy, and Lyman (1968) found that subjects required to perform a visual monitoring task described by the experimenter as being enjoyable performed better than subjects performing the same task which had been described as being boring. Similar results were found by Neal (1966) in an auditory monitoring task, and by Locke and Bryan (1969) in a task of driving performance. A study by Hernandez-Peon (1964) of changes in physiological responses to verbal

instructions found that when the experimenter warned subjects of a more or less intense flash of light, the level of magnitude of the evoked potentials changed in a direction corresponding to the instructional orientation provided by the experimenter even though all the flashes of light were of the same intensity. A study by Laws and Rubin (1969) demonstrated that male subjects were able to effectively control sexual responses in the direction suggested by instructions from the experimenter both in the presence and absence of erotic stimulus film.

Brown (1959) studied the role of an anticipatory set on listening comprehension in a study where two forms of a standardized test of listening comprehension were administered to two groups of subjects. The selections from Form IA were prefaced with brief orienting instructions which described the content of the selection and the nature of the test which was to follow. Form IB contained no prefatory orienting instructions. Subjects scored significantly higher under the orienting instructions condition.

Thus, there is strong evidence that orienting instructions can have an effect on the level of performance by subjects in a variety of task and test conditions.

Monetary incentives

Studies investigating the effect of a monetary incentive on a variety of tasks have yielded inconclusive results. While several studies have found that a monetary incentive facilitated performance on the task (Smith, Lucaccini, & Epstein, 1967; Heimrich, 1968; and Frase, 1971), other studies found that a monetary incentiv had no effect on task performance (Pollack & Knaff, 1958; Sipowicz, Ware, & Baker, 1962; Blum & Wohl, 1971; and Viesti, 1971). The role of a monetary incentive in the listening process *per se* has not been extensively investigated. Moray and Beck (reported in Moray, 1969:54-59) used a monetary payoff to manipulate the selection of response strategies in a dichotic listening task. Specifically, the goal of the experiment was to demonstrate that one type of error could be reduced

without affecting a second type of error. Subjects were required to monitor a two channel message (one channel was a male voice and the second channel was a female voice) in which pairs of digits had been embedded. Different groups of subjects received different orienting instructions describing a monetary payoff favoring the elimination of a specified type of error. The results indicated that the monetary payoff coupled with the orienting instructions were successful in altering the types of errors made by subjects. When rewarded for avoiding a specified type of error, subjects were able to avoid the error.

Sex of the listener

While differences between males and females have been found in studies of attention (Silverman, 1970), research in the area of listening comprehension has failed to demonstrate similar differences between the sexes. Weaver (1972:75-76) suggested that one reason for the lack of consistent findings might be the neglect of the possible confounding effect of the interestingness of the materials used and the level of motivation of the listeners.

A possible relationship between sex and interestingness has been found by several researchers. King (1959) found that even though there was no difference between the listening comprehension of primary age boys and girls, there was a significant interaction between the sex of the listener and the type of message content included in test items. Boys were found to score higher on items which reflected a practical or scientific orientation while girls scored higher on those items which were descriptive or imaginative in nature. In a study of the relationship between difficulty of message, speed of presentation, and sex of the listener, Goldhaber and Weaver (1968) found that males scored higher than females on the listening achievement test. Rather than conclude that men were better listeners than women, however, it was suggested that the differences might have been a result of the differential interest levels of the four messages employed.

Rossiter (1972) attributed his failure to find significant differences between the listening comprehension of males and females to the possibility that the use of multiple messages in the testing instrument might have served to minimize the effect of differential interest due to message content. He did not, however, investigate to see whether the use of the multiple messages did in fact equalize the effect of interest among the male and female subjects.

Hypotheses

Based on the previous research of the effects of interestingness, monetary incentive, and sex of the listener, the following hypotheses were tested:

(1) Subjects instructed that they will hear an interesting speech will score significantly higher on a listening achievement test than will subjects instructed that they will hear a boring speech.

(2) Subjects receiving a graduated monetary incentive for superior performance on the listening achievement test will score significantly higher on the test than will subjects receiving a fixed monetary incentive.

(3) Male subjects will score significantly higher on the listening achievement test than will female subjects.

METHOD

Subjects

The subjects were 120 volunteer undergraduate students enrolled in the basic speech courses in the School of Interpersonal Communication at Ohio University during the spring and summer quarters of 1972. All subjects were informed that they would be paid $1.25 for their participation in the study. There were 56 females and 64 males in the sample.

Materials

The speech used for the study was written by Robert T. Oliver (1969). A tape-recording was made of a graduate student in communication reading the Oliver speech. The final tape-recorded speech lasted just over thirty minutes. In a

pilot administration of the experiment, subjects had evaluated the speech as neutral on a seven-interval scale using the two polar adjectives of "boring" and "interesting" on the ends of the scale.

Listening achievement was measured by a twenty-item recognition test over the content of the speech. A mean of 11.77 and a standard deviation of 3.46 with a range of scores of from 4 to 20 was obtained during the administration of the experiment. A coefficient of internal consistency of 0.67 was obtained by the KR-20 formula.

Ratings of perceived interest in the speech was obtained by means of a seven-interval scale using the two polar adjectives of "boring" and "interesting" at the end of the scale.

Experimental design

The design of the experiment was a 3 x 2 x 2 mixed effects analysis of variance. The three factors were interestingness, monetary incentive, and sex of the listener.

Interestingness. Interestingness of the message was manipulated by means of orienting instructions which informed the subjects that the speech would be interesting, boring, or no instructions were provided for a control group.

One-third of the subjects were told that the speech which they would hear was on a very important and relevant topic. They were further told that the author was a well known expert in international communication, and several of the scholarly accomplishments of the author were mentioned to provide added support for his credibility. At the conclusion of the introduction, subjects were told, "I think that you will find that Dr. Oliver has much to say which is very worthwhile. His examples and illustrations add interest and life to his speech."

One-third of the subjects were given no information about the speech which they were to hear. The final one-third were told that the purpose of the study

was to see how well students could listen to a lengthy boring speech. The speech was described as being "like many of the more boring classroom lectures you have heard."

Monetary incentive levels. Half the subjects were given no added information about monetary rewards other than their expected payment for participation in the experiment. Half the subjects were told, however, that if they were able to score at specified levels on the achievement test, they could double or even triple their expected earnings ($2.50 and $3.75 respectively).

Sex of the listener. Subjects were assigned to groups so that both male and female subjects were included in each of the small groups to which the experiment was administered.

Procedures

Upon reporting to the listening lab, subjects were seated in individual listening booths. The equipment was briefly explained, orienting instructions and information about the monetary incentive were presented, and the subjects listened to the tape-recorded speech. Immediately following the speech, the achievement test was administered. As each subject completed the test, it was scored in his presence and the appropriate payment was given to the subject.

RESULTS

The .05 level of significance was required for all statistical tests. An initial analysis was performed to check on the adequacy of the experimental manipulations as perceived by the subjects. The major analysis was then performed using the scores on the listening achievement test.

Manipulation checks

The Boring Orientation group ($\bar{X}$=3.25) perceived the speech as significantly more boring than either the Interesting Orientation group ($\bar{X}$=5.32) or the No

Orientation group ($\bar{X}$=5.19) thus suggesting that the manipulation of perceived interestingness by means of orienting instructions was successful (F=26.57, df=2/108).

While the Added Incentive group ($\bar{X}$=4.62) perceived the speech as more interesting than the No Added Incentive group ($\bar{X}$=4.56), the F-ratio was not significant (F<1, df=1/108). Males ($\bar{X}$=4.71) perceived the speech as more interesting than females ($\bar{X}$=4.46), but again the difference was not significant (F<1, df=1/108). The speech was thus not significantly more interesting to subjects receiving the added monetary incentive or to either of the sexes.

As a check on the adequacy of the manipulation of the monetary incentive, subjects were asked to respond with "yes" or "no" to the question, "Do you think that receiving money for helping in this experiment made you listen any better?" The significant chi-square (χ^2=20.28, p<.01) was indicative of the fact that while only 5% of the subjects in the No Added Incentive group responded "yes," 42% of the subjects in the Added Incentive group responded "yes" expressing the belief that the added monetary incentive had helped them to listen better.

Performance on the listening achievement test

The listening achievement test scores were analyzed in a 3 x 2 x 2 analysis of variance design. The mean achievement test scores for the twelve cells of the design are presented in Table 1.

The differences between the three orienting instruction conditions (interestingness) were not significant (F<1, df=2/108). While the Added Incentive group ($\bar{X}$=12.21) scored higher on the listening achievement test than the No Added Incentive group ($\bar{X}$=11.21), the difference was not significant (F=2.59, df=1/108). Males ($\bar{X}$=12.51) did score significantly higher than females ($\bar{X}$=10.91) on the listening achievement test (F=6.52, df=1/108). None of the interactions were significant.

Table 1

Mean Listening Achievement Test Scores

	No Additional Incentive		Additional Incentive	
	Female	Male	Female	Male
Interesting Orientation	8.89 n=9	12.82 n=11	12.33 n=9	12.45 n=11
No Orienting Instructions	10.88 n=8	12.25 n=12	10.40 n=10	12.50 n=10
Boring Orientation	10.78 n=9	11.64 n=11	12.20 n=10	13.40 n=10

DISCUSSION

Neither hypothesis 1 nor hypothesis 2 concerning the effect of interestingness and monetary incentive on listening ability as measured by the achievement test was supported by the above statistical analysis. These results suggest that the two variables related to willingness to listen had no effect on subjects' scores over the content of the speech. Hypothesis 3 which stated that male subjects would score significantly higher than female subjects was supported.

Money has been recognized as an important and often powerful factor in our culture. Cartoons frequently depict men as doing almost anything if the price is high enough. Such a view may be at least partially false. Some recent studies have found that workers valued nonmonetary payoffs, such as fringe benefits in the form of extra time for vacations, as more important than direct pay increases (Nealey, 1963; Nealey & Goodale, 1967). It seems reasonable to assume that the American college student may not view the payment of money as an effective form of motivation in the facilitation of learning. A theory of task motivation and incentive suggested by Locke (1968) might provide the basis for interesting hypotheses in future research on the effects of motivation in listening achievement.

Locke in his theory hypothesized that the major problem in motivation is goal commitment. Offering an individual money for performance on an achievement test may serve to motivate him to set his goals higher in some instances, but this would be contingent upon how much money he wanted and how important other competing goals were to him at the time. Thus, in the present research, subjects knew that they would receive at least $1.25 for their participation, and they may have felt that the extra effort required to make the higher score on the listening achievement test was not worth the added monetary incentive.

Shellen (1972), in a dissertation completed after the present research, investigated the effects of an extrinsic motivator in the form of grades on student listening achievement scores. In keeping with what would be the expected outcome based on Locke's theory, Shellen found that subjects who were told that their scores on the listening test would be counted as a part of their public speaking grades did score significantly higher on the listening achievement test. Grades can probably be considered a motivator stimulating most students to be more willing to attend closely enough to a message in order to enhance their scores over the content of the message. Shellen found that the subjects receiving the grades for their test scores did in fact rate themselves as listening more effectively than subjects receiving no grades. Thus, while an extrinsic motivator in the form of money had no effect in the present study, an extrinsic motivator in the form of grades did have a facilitating effect on listening achievement test scores in the Shellen study. Perhaps the level of goal setting is the crucial factor.

That males scored significantly higher than females on a listening achievement test over a message where there was no difference in the interestingness of the message to either sex would appear to suggest that perhaps their differential listening abilities might in fact be more than cultural artifact. The different attentional styles (Weaver, 1972; Silverman, 1970) would appear in the present

study to receive some additional support.

The findings of the present study can be summarized as follows: (1) interestingness and monetary incentives had no significant effect on scores on a listening achievement test; (2) males scored significantly higher than females on a listening achievement test; (3) when told that the speech would be boring or interesting, subjects evaluated the interestingness of the speech in accordance with the orienting instructions; and (4) there was not a significant correlation between the perceived interestingness and listening achievement test scores.

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